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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/711,177	11/13/2000	James M. Clark	0918.0040C	6600

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07/07/2004

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EXAMINER

ZHENG, EVA Y

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 07/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/711,177

Applicant(s)

CLARK, JAMES M.

Examiner

Eva Yi Zheng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-9, 13, 14, 16, 20-23, 25, 26, 28-30, 32 and 34 is/are rejected.
- 7) ☒ Claim(s) 4, 10-12, 15, 17-19, 24, 27, 31 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5, 7, 9, 13, 16, 18, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Gutleber (4,549,303).

- a) Regarding claim 1, Gutleber discloses a code generating apparatus, comprising:
a first code generator (38 in Fig. 3) generating a first code of n symbols (as shown in Fig. 4);

a second code generator (36 in Fig. 3) generating a second code of m symbols (as shown in Fig. 4), where m is greater than n (Col 5, L 14-16); and

a combiner (40 in Fig. 3) for combining the symbols generated by the first and second code generators to generate a combined code from which both the first and second codes can be detected.

- b) Regarding claim 9, Gutleber discloses a method of generating a combined code comprising:

a) combining a plurality of codes (40 in Fig. 3) each having a length shorter than the transmission code (as shown in Fig. 3); and

b) outputting the combined code (44 in Fig. 3), wherein the plurality of codes can be detected from the combined code, and the phase of the combined code can be detected from the plurality of codes (48-51 and 56-59 in Fig. 4).

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- c) Regarding claim 13, Gutleber discloses a method of generating a code, comprising:
- a) generating a symbol of a first code of length n symbols (38 in Fig. 3);
 - b) generating a symbol of a second code of length m symbols (36 in Fig. 3), where m is greater than n (as shown in Fig. 4); and
 - c) generating a third code by outputting the symbol of the first code followed by the symbol of the second code (40 on Fig. 3).
- d) Regarding claims 5 and 16, Gutleber discloses the code generating apparatus wherein the first and second codes are pseudonoise codes (Col 4, L 19-25; "TDM" inherent as pseudonise code).
- e) Regarding claim 7, Gutleber discloses the code generating apparatus of claim 1, wherein the combiner (40 in Fig. 3) is coupled to the first and second code generators.
- f) Regarding claims 8 and 20, Gutleber discloses the code generating apparatus wherein each symbol represents a binary value (as shown in Fig. 4; Col 5, L 14-16).

3. Claims 1-3, 5, 6, 8, 13, 14, 16, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Campell (4,234,930).

- a) Regarding claims 1 and 13, Campell discloses a code generating apparatus, comprising:
- a first code generator (8 in Fig. 2) generating a first code of n symbols (shown as C1 in Fig. 1);
 - a second code generator (9 in Fig. 2) generating a second code of m symbols (shown as C2 in Fig. 1), where m is greater than n (Col 3, L 1-5); and

a combiner (12 in Fig. 2) for combining the symbols generated by the first and second code generators to generate a combined code from which both the first and second codes can be detected.

b) Regarding claim 2, Campell discloses the code generating apparatus of claim 1, wherein the combiner is a multiplexer (Col 4, L56-58) that interleaves the symbols of the first and second codes to generate an interleaved code (C3 as shown in Fig. 1).

c) Regarding claims 3 and 14, Campell discloses the code generating apparatus wherein n and m are mutually prime (as shown in Fig. 1).

d) Regarding claims 5 and 16, Campell discloses the code generating apparatus wherein the first and second codes are pseudonoise codes ("SAW" is inherent as pseudonoise code).

e) Regarding claim 6, Campell discloses the code generating apparatus of claim 2, wherein the multiplexer interleaves the symbols of the first and second codes in a chip by chip manner (bracket A of C1 and bracket B of C2 in Fig. 1), and wherein the symbols are comprised of chips (as shown in Fig. 1).

f) Regarding claim 7, Campell discloses the code generating apparatus of claim 1, wherein the combiner is coupled to the first and second code generators (12 in Fig. 2).

g) Regarding claims 8 and 20, Campell discloses the code generating apparatus wherein each symbol represents a binary value (as shown in Fig.1).

4. Claim 21 is rejected under 35 U.S.C. 102(b) as being anticipated by Tarbouriech (4,727,570).

a) Regarding claim 21, Tarbouriech discloses a transmitter, comprising:

a controller (1 in Fig. 1) outputting first, second and third control signals based on a count;

a first code generator (4R in Fig. 1) generating a first code of n symbols in response to the first control signal;

a second code generator (4C in Fig.1) generating a second code of m symbols in response to the second control signal; and

a combiner (9 in Fig. 1) coupled to the controller and the first and second code generators,

wherein the combiner combines the symbols of the first code with the symbols of the second code in response to the third control signal and outputs a combined code (as shown in Fig.1).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 22, 23, 25, 26, 28, 29, 30, 32, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tarbouriech in view of Campbell.

a) Regarding claim 22, Tarbouriech discloses all the subject matter described above except for the specifically teaching of the combiner is a multiplexer for interleaving symbols of the first code with symbols of the second code, thereby generating the combined code as an interleaved code.

Campbell, in the same field of endeavor, teaches a code generator generating a first interleaved code (8 in Fig. 2), a second code generator generating a second

interleaved code (9 in Fig. 2), and a multiplexer for combining (12 in Fig. 2) the first and the second interleaved code.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the waveform generator by Tarbouriech to Campbell's interleaved signal including the oscillator in order to better control signals for stop and reset processing.

b) Regarding claims 23 and 30, Campell discloses the code generating apparatus wherein n and m are mutually prime (as shown in Fig. 1).

c) Regarding claims 25 and 32, Campell discloses the code generating apparatus wherein the first and second codes are pseudonoise codes ("SAW" is inherent as pseudonoise code).

d) Regarding claim 26, Campell discloses the transmitter according to claim 23, wherein the symbols of the first code are generated in order, modulo n (C1 in Fig. 1), and the symbols of the second code are generated in order, modulo m (C2 in Fig. 1).

e) Regarding claims 28 and 29, Campell discloses a transmission signal having a sequence of symbols, the sequence comprising symbols of a first code of n symbols interleaved with symbols of a second code of m symbols (C3 in Fig. 1).

f) Regarding claim 34, Campell discloses each symbol is comprised of chips that each represents a binary value (as shown in Fig. 1).

Allowable Subject Matter

7. Claims 4, 10-12, 15, 17-19, 24, 27, 31, and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in

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independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Yi Zheng whose telephone number is 703-305-8699. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-879-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:


(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Eva Yi Zheng
Examiner
Art Unit 2634

June 14, 2004


SHUWANG LIU
PRIMARY EXAMINER